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| 09/890,440 | 08/01/2001 | Yong-Woon Han | P56560PCT | 1745 |

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EXAMINER

LEUNG, PHILIP H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,440

Applicant(s)

HAN ET AL.

Examiner

Philip H Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 7, 8, 10, 11, 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 16 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 12-15 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election with traverse of claims 1-6, 12-15 and 19-25 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that no generic claims were identified and the search for both species is coextensive. This is not found totally persuasive because this election requirement was made under the PCT rule as the claims are clearly drawn to two different inventive concepts for the reasons set forth in the previous office action. The two inventive concepts are different so that the search for each of them is not the same and therefore search time is saved with the election requirement. However, upon reconsideration, claims 9 and 16 are examined together with the elected claims, as they are the independent claims upon which some elected claims are dependent upon and can therefore be considered as generic.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 7, 8, 10, 11, 17 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

3. The references cited in the PCT and on the IDS are noted. However, the copies of the references are missing from the file and the examiner has not been able to procure a copy of the two Korean references, KR1998-063572 and KR1988-29055, applicant's cooperation to file the same in the next Office action is requested.

4. The drawings filed 8/1/2001 are acceptable.

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5. On page 9, the statement “switch SSW is connected in parallel with the primary interlock switch PSW” at lines 13-14 appears to be in contradiction with Figure 1 which shows SSW and PSW are in series. On page 14, the word “raisen” at line 13 is misspelled. Clarification and correction are required.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 4, 9 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Low et al (US 5,276,300) (cited by the applicant).

Low shows a DC 28 powered microwave oven having a driving circuit with an inverter 106, a high voltage transformer 70, a magnetron 33 and a pulse driving unit (see Figures 5 and 7). It also shows the use of an excessive current unit (370, 372, 374, 359, 360, 362, 366, etc.) for detecting a current supplied from the DC power supply to the inverter and outputting a signal to the pulse driving unit to cut off the generation of the driving pulses to stop the operation of the microwave oven (see Figure 8, col. 8, lines 39-57). In regard to claims 2, comparators 359, 366 and 374 are the claimed comparison part. In regard to claim 4, Low shows the use of FETs 190 and 192 as the inverter. In regard to claims 9 and 16, Low also shows the use of a switching unit and a switch monitor unit (68, 46, 48, 10, 122, etc.) for cutting off the supply when the door is open (see Figure 4 and col. 3, line 56 – col. 4, line 65).

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 3, 5, 6 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Low et al (US 5,276,300), in view of Akazawa et al (US 5,237,140).

Low shows a DC 28 powered microwave oven having a driving circuit with an inverter 106, a high voltage transformer 70, a magnetron 33 and a pulse driving unit (see Figures 5 and 7). It also shows the use of an excessive current unit (370, 372, 374, 359, 360, 362, 366, etc.) for detecting a current supplied from the DC power supply to the inverter and outputting a signal to the pulse driving unit to cut off the generation of the driving pulses to stop the operation of the microwave oven (see Figure 8, col. 8, lines 39-57). Therefore, Low shows every feature and structure as claimed except for the engineering design variation of the feedback control unit, such as the use of amplifier and transistor for the control signal. Akazawa shows a DC microwave oven with a battery and a sensing circuit to monitor the voltage of the battery to feedback control the operation of the microwave oven. The sensing circuit includes comparator

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24 with a reference input, amplifier 23, diode 26 and transistor 25 for controlling the on-off of S3 of the inverter 3 for the microwave oven (see Figure 11 and col. 8, lines 18-59). It would have been obvious to an ordinary skill in the art to modify Low with a routine feedback circuit with amplification and a switching transistor for better control the operation of the microwave oven according to the sensed condition of the DC power supply, in view of the teaching of Akazawa.

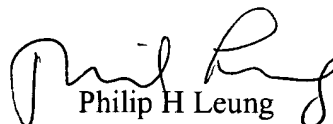
10. Claims 12-15 and 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. An (US 5,451,750) and Ishiyama (JP 1-292790) are cited to show microwave ovens with a power feedback control circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710. The examiner can normally be reached on flexible.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (703) 308-2634. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
1/8/2004